SOV/69-21-1-8/21

The Dispersing Action of Cavitation.

ASSOCIATION: Moskovskiy oblastnoy pedagogicheskiy institut (The Moscow Oblast Pedagogical Institute).

SUBMITTED: November 28, 1957

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SOV/76-33-9-36/37

5(4)
AUTHORS: Kudryavtsev, B. B., Kudryavtsev, N. T.

TITLE: Sergey Vasil'yevich Gorbachev (On His 60th Birthday)

PERIODICAL: Zhurnal fizicheskoy khimii , 1959, Vol 33, Nr 9, pp 2115 - 2116 (USSR)

ABSTRACT: On August 17, 1959 the renowned physicochemist Professor S. V. Gorbachev celebrated his 60th birthday. He studied at the Moskovskiy gosudarstvennyy universitet (Moscow State University) where he dealt with scientific problems, assisted by his colleagues P. A. Rebinder, V. K. Semenchenko, V. V.Tarasov, K. A. Putilov, Yu. V. Khodakov, N. A. Shishakov et al and under the supervision of Professor B. V. Il'in. From 1921 to 1938 he worked at the Tsentral'nyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut, Moskva (Moscow, Central Scientific Chemico-pharmaceutical Research Institute). He dealt with all fields of physical chemistry. In cooperation with O. Yu. Magidson et al he devised a new method of preparing iodine from petroleum drilling water. Together with N. B. and V. B. Miller he made fundamental measurements of partial pressures over salt mixtures during the oxidation of bromides

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Sergey Vasil'yevich Gorbachev (On His 60th Birthday) SOV/76-33-9-36/37

with chlorine. Between 1932 and 1936 he established a physico-chemical laboratory at the Gosudarstvennyy geofizicheskiy institut (State Institute of Geophysics), where he investigated elementary processes in aerosols. Since 1930 he has been teaching chemistry at the Moskovskiy khimiko-tekhnologicheskiy institut im. D. I. Mendeleyeva (Moscow Institute of Chemical Technology imeni D. I. Mendeleyev), first as Docent, and later as Professor of the Chair of Physical Chemistry. In 1941 he wrote his doctor's dissertation on the theory of the development of a new phase, which formulated observations made by Tamman. Besides other research work, S. V. Gorbachev together with N. P. Zhuk, A. V. Izmaylov, Ya. I. Vabel et al systematically investigated the influence exercised by temperature upon electrochemical processes. Together with V. A. Mil'chev he investigated the electrolysis of aqueous solutions up to 200° C (and presently up to 300°C). In cooperation with O. B. Khachaturyan and V. A. Mil'chev he devised methods of calculating polarization in the electrolysis of redox systems. For his scientific and pedagogical merits S. V. Gorbachev was awarded the Lenin Order, the Badge of Honor, and three medals. There is 1 figure.

Card 2/2

KUDRYAVTSEV, Boris Borisovich; DROZHZHIN, Yu.N., red.; NATAPOV, M.I., tekhn.red.; KORNEYEVA, V.I., tekhn.red.

[Textbook on physics; heat and molecular physics] Kurs fiziki; teplota i molekuliarnaia fizika. Moskva, Gos.uchebno-pedagog. izd-vo M-va prosv.RSFSR, 1960. 209 p. (MIRA 13:9)
(Heat) (Molecular theory)

KUDRYAVTSEV, B. B.

PHASE I BOOK EXPLOITATION SOV/5207

Vserossiyskaya konferentsiya professorov i prepodavateley pedagogicheskikh institutov.

Primeneniye ul'trakustiki k issledovaniyu veshchestva (Utilization of Ultrasonics for the Investigation of Matter) Moscow, Izd. MOPI, 1960. 267 p. 1,000 copies printed. (Series: Its Trudy, vyp. 11)

Ed. (Title page): V.F. Nozdrev, Professor and B.B. Kudryavtsev, Professor.

PURPOSE: This collection of articles is intended for physicists specializing in the physics of ultrasound.

COVERAGE: The collection of articles constitutes the transactions of the VII Conference on the Applications of Ultrasonics to the Study of Materials, which was held at the Moscow Oblast Pedagogical Institute imeni N.K. Krupskaya. Individual articles of the collection discuss various problems in the wave mechanics of ultrasound, the absorption and the propagation mechanics of ultrasonic waves in various media, the operating principle and design of generators and receivers of ultrasonic waves, the speed of sound and methods for its determination. Other articles deal with the applications of ultrasonics to investigations of the properties of materials. No personalities are mentioned. References accompany

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(17)

KUDRYAVTSEV, B.B.

PHASE I BOOK EXPLOITATION SOV/5207

Vsesoyuznaya konferentsiya professorov i prepodavateley pedagogicheskikh institutov.

Primeneniye ul'traakustiki k issledovaniyu veshchestva (Utilization of Ultrasonics for the Investigation of Matter) Moscow, Izd. MOPI, 1960. 267 p. 1,000 copies printed. (Series: Its Trudy, vyp. 11)

Ed. (Title page): V.F. Nozdrev, Professor and B.B. Kudryavtsev, Professor.

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Utilization of Ultrasonics (Cont.) SOV/5207

AVAILABLE: Library of Congress (QC244.V82)

JA/dwm/gmp (17)

NOZDREV, V.F., prof., red.; KUDRYAVTSEV, B.B., prof., red.

[Application of ultrasonic waves for the investigation of materials] Primenenie ul'traakustiki k issledovaniiu veshchestva. Pod red. V.F.Nozdreva i B.B.Kudriavtseva. Moskva, Izd-vo MOPI. No.10. 1960. 321 p. (MIRA 13:8)
(Ultrasonic waves--Industrial applications)
(Materials--Testing)

S/058/62/000/003/056/092
A061/A101

AUTHOR: Kudryavtsev, B. B.

TITLE: Waves of two kinds, propagating in gels

PERIODICAL: Referativnyy zhurnal, Fizika, no. 3, 1962, 38, abstract 3G306 (Sb. "Primeneniye ul'traakust. k issled. veshchestva". no. 12, Moscow, 1960, 31-39)

TEXT: Longitudinal elastic oscillations of two kinds propagate in gel-type colloidal systems. Oscillations of the 1st kind propagate in liquid medium - filler system (in jelly-like gel - water) at a velocity characteristic of this medium. Oscillations of the second kind propagate through the colloidal structure at a much lower velocity. The propagation velocity of the second kind waves in jelly-like gel is a few meters per second. The phenomena, observed in the propagation of sound in jelly-like gel, can be simulated with liquid-filled rubber sponges. In this case, one also observes the propagation of waves of two kinds, one of which is determined chiefly by the properties of the liquid filler, and the other by the sponge properties.

[Abstracter's note: Complete translation]

Card 1/1

40332

S/194/62/000/006/117/232
D256/D308

24.1800

AUTHORS: Akhaladze, V.P., and Kudryavtsev, B.B.

TITLE: Measurements of absorption of ultrasound in solutions in the presence of an external electric field

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 6, 1962, abstract 6-5-35 y (V. sb. primeneniye ul'traakust. k issled. veshchestva, no. 12, M., 1960, 177-187)

TEXT: The investigation concerns the possible effect of electric fields, parallel and perpendicular to the direction of the sound, upon the propagation of the sound in solutions of polar liquids in non-polar solvents. The velocity and the absorption of ultrasound was measured using optical method of light diffraction on the ultrasonic waves. The experimental system is described and a bloc diagram of the el. circuits is presented. The measurements were carried out for binary mixtures benzene - nitro-benzene and n-heptane - nitrotoluene at frequencies 8 to 19 Mc/s and at a temp. of 21°C. The el. field was produced using two electrodes submerged in-

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S/194/62/000/006/117/232
D256/D308

Measurements of absorption of ...

to the liquid investigated. No regular effect of the el. field on the absorption of ultrasound could be established. The observed deviation of the coeff. of absorption from its mean value did not exceed the experimental error of the installation. 11 references.
[Abstracter's note: Complete translation.]

Card 2/2

24,1800

3/058/62/000/003/058/092
A061/A101

AUTHORS: Ryazanov, A. I., Kudryavtsev, B. B.

TITLE: Problem of the depolarizing action of ultrasonics

PERIODICAL: Referativnyy zhurnal, Fizika, no. 3, 1962, 43, abstract 3G350 (Sb. "Primeneniye ul'traakust. k issled. veshchestva", no. 12, Moscow, 1960, 189-198)

TEXT: Ultrasonic vibrations in the electrolytic evolution of hydrogen under pulsed acoustic irradiation display a significant depolarizing action by reducing the electrode potential. The depolarizing effect diminishes with increasing current density, and does not depend on the electrode nature for the metals examined (Cu, brass, Ni, Fe). The depolarizing effect is determined by the amount of ultrasonic energy supplied to the electrolyzer per unit time.

[Abstracter's note: Complete translation]

Card 1/1

PHASE I BOOK EXPLOITATION SOV/6180

Kudryavtsev, Boris Borisovich

Ul'traakusticheskiye metody issledovaniya veshchestva (Ultrasonic Methods of Investigating Matter) Moscow, Uchpedgiz, 1961. 132 p. 12,000 copies printed.

Ed.: Yu. N. Drozhzhin; Tech. Ed.: M. I. Smirnova.

PURPOSE: This book is intended for physicists and engineers interested in ultrasonic methods of investigating the properties of materials.

COVERAGE: This book deals with ultrasonic methods of investigating the properties of solids, liquids, and gases. Methods of producing elastic waves of various frequencies and techniques of acoustic measurement are described. There are 250 references, mainly English and Soviet. No personalities are mentioned.

TABLE OF CONTENTS:

Card 1/2

KUDRYAVTSEV, Boris Borisovich, prof.; FEDCHENKO, V., red.; YEGOROVA, I., tekhn. red.

[World in a grain of sand; a story of simple things] Mir v peschinke; rasskaz o prostykh veshchakh. Moskva, Izd-vo TsK VLKSM "Molodaia gvardiia," 1961. 157 p. (MIRA 15:3)
(Physics—Experiments) (Microcosm and macrocosm)

KUDRYAVTSEV, Boris Borisovich; GRIGOROVA, V.A., red.; KRYUCHKOVA, V.N., tekhn.red.

Mikhail Vasil'evich Lomonosov. Izd.4. Moskva, Gos.izd-vo fiziko-matem.lit-ry, 1961. 167 p. (MIRA 15:2)
(Lomonosov, Mikhail Vasil'evich, 1711-1765)

S/058/62/000/004/081/160
A061/A101

AUTHORS: Ryazanov, A. I., Kudryavtsev, B. B.

TITLE: Problem of the depolarizing effect of ultrasonics

PERIODICAL: Referativnyy zhurnal, Fizika, no. 4, 1962, 39, abstract 4G323 (Sb. "Primeneniye ul'traakust. k issled. veshchestva", no. 13, Moscow, 1961, 219-239)

TEXT: The effect of a standing ultrasonic wave (21.3 kc) on electrode processes in the electrolytic recovery of hydrogen from 0.5 n.KON on an iron cathode was observed. The dependence of the cathode potential E for different intensities of ultrasonics (up to 0.5 w/cm^2), different densities of the electrolytic current (up to 15.7 ma/cm^2), and at various temperatures (20 - 60°C) was determined. At low intensities of ultrasonics, there was a slight linear drop of E with a rise of intensity. When a certain intensity (varying with current density) was attained, E dropped sharply (ΔE = 450 mv for a cathode potential of ~1,300 mv), and cavitation took place in the electrolyte. The sharp drop of E was not observed at high current densities, not even when the intensity of ultrasonics was the highest. The discontinuity of ΔE was independent of temperature.

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Problem of the depolarizing effect of ultrasonics

S/058/62/000/004/081/160
A061/A101

The results are qualitatively explained from the viewpoint of the electrolysis theory.

L. Zarembo

[Abstracter's note: Complete translation]

Card 2/2

S/058/62/000/004/070/160
A058/A101

AUTHOR: Kudryavtsev, B. B.

TITLE: Concerning the interaction of molecules of a liquid

PERIODICAL: Referativnyy zhurnal, Fizika, no. 4, 1962, 36, abstract 4G301 (V sb. "Primeneniye ul'traakust. k issled. veshchestva". v. 13, Moscow, 1961, 323-327)

TEXT: The author examines some distinctive features of Lennard-Jones-interaction between vibrating molecules of a liquid. He determines the mean attractive and repulsive forces, and shows that repulsive forces predominate.

[Abstracter's note: Complete translation]

Card 1/1

45435
S/058/63/000/001/104/120
A062/A101

27.1200

AUTHORS: Akhaladze, V. P., Kudryavtsev, B. B.

TITLE: Influence of electrostatic fields on ultrasonic propagation in high polymer solutions

PERIODICAL: Referativnyy zhurnal, Fizika, no. 1, 1963, 68, abstract 1Zh407 (In collection: "Primeneniye ul'traakust. k issled. veshchestva", no. 15, Moscow, 1961, 117 - 127)

TEXT: Results are reported of a study on the influence of an electrostatic field on the propagation of ultra-sound at frequencies 5 - 15 Mc/s in solutions of polar polymers in non-polar liquids. Measurements were carried out in solutions of benzol-polymethyl-methacrylate, toluol-polymethyl-methacrylate and benzol-polystyrol at room temperature for different concentrations. To find out the influence of an electrostatic field on the ultra-sound absorption, use was made of a specially elaborated photoelectric method in which the absolute value of the ultra-sound absorption in the absence of an electric field was determined by Bazhulin's method, and the relative value by a photometric

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method. The accuracy of the method is estimated as ~0.1%. In all the measurements there was found no influence of the electrostatic field on the absorption and speed of ultra-sound. A large additional absorption of ultra-sound is noted in the investigated solutions despite the absence of relaxation phenomena. If the polymer molecules are represented in the form of loose small clouds, then it may be assumed that the additional absorption is brought about by friction in the relative motion of the polymer molecules in the solution.

E. Denisov

[Abstracter's note; Complete translation]

KUDRYAVTSEV, B.B.

Interaction of the molecules of a liquid. Zhur. fiz. khim. 35 no.3:696 Mr '61. (MIRA 14:3)

(Liquids, Kinetic theory of)

KAPUSTIN, Aleksandr Pavlovich; LEMLEYN, G.G., prof., retsenzent; KUDRYAVTSEV, B.B., prof., retsenzent; SBITNIKOVA, I.S., red. izd-va; SHUBNIKOV, A.V., akademik, otv. red.; SIMKINA, G.S., tekhn.red.

[Effect of ultrasound on the kinetics of crystallization] Vliianie ul'trazvuka na kinetiku kristallizatsii. Moskva, Izd-vo Akad. nauk SSSR, 1962. 106 p. (MIRA 15:3)
(Ultrasonic waves) (Crystals—Growth)

KUDRYAVTSEV, B.B., prof.

Properties of the surface of liquids; laboratory on a desk.
IUn.tekh. 6 no.4:76-77 Ap '62. (MIRA 15:6)
(Surface chemistry)

S/058/63/000/001/108/120
A062/A101

AUTHORS: Ryazanov, A. I., Kudryavtsev, B. B.

TITLE: Dependence of the depolarizing effect of ultra-sound on the pH of a solution

PERIODICAL: Referativnyy zhurnal, Fizika, no. 1, 1963, 70, abstract 1Zh418 (In collection: "Primeneniye ul'traakust. k issled. veshchestva", no. 16, Moscow, 1962, 13 - 24)

TEXT: The effect of ultra-sound on the process of electrolytic separation of hydrogen from a 0.25 standard solution of $Na_2SO_4 \cdot 10H_2O$ on a Fe cathode was investigated. Measurements were carried out in an electrolyzer made of organic glass. The electrode potentials were measured by the direct compensation method. The acidification of the solution was effected with the aid of chemically pure sulfuric acid, the alkalination with the aid of caustic soda of analytically pure quality. Measurements of the pH of the solutions were carried out by means of a tube potentiometer. Thermostating of the installation was realized with an accuracy to 1°C. The intensity of the ultra-sound vibrations was 0.5 watts/cm^2.

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S/058/63/000/001/108/120
A062/A101

Dependence of the depolarizing effect of...

The measurements were carried out under conditions of originating a stationary sound wave. The article gives graphs of the dependence of the depolarization effect and of the ultra-sound potential on the pH of the solution for the range of the investigated temperatures and current densities. The reduction of the overload under the action of ultrasonic vibrations is maximum in the case of neutral solutions and smaller in the case of acid and strong alkaline solutions. The values of the depolarization effects, obtained for various electrolytes, fall well on a common curve representing the dependence of the depolarization effect on the pH of the solution. Comparing the obtained experimental data with the theory leads to the conclusion that ultrasonic depolarization is not only related with the intermixing and with the desorption effect of cavitation bubbles, but results from a deeper effect of the ultrasonic vibrations on the individual steps of the general discharge reaction of hydrogen ions (expansion of the O-H bonds in alkaline solutions, ion dehydration in acid solutions).

I. Ratinskaya

[Abstracter's note: Complete translation]

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S/058/63/000/001/109/120
A062/A101

AUTHORS: Ryazanov, A. I., Kudryavtsev, B. B.

TITLE: About the depolarizing effect of ultra-sound

PERIODICAL: Referativnyy zhurnal, Fizika, no. 1, 1963, 70, abstract 1Zh419 (In collection: "Primeneniye ul'traakust k issled. veshchestva". no. 16, Moscow, 1962, 25 - 32)

TEXT: An investigation was made on the process of the ultrasonic effect on the energy of the activation A in an electrochemical process of separating hydrogen from a 0.25 standard solution of $Na_2SO_4 \cdot 10H_2O$ under conditions of a constant potential E of the polarized electrode; the pH of the solution was 6.3. Isopotential straight lines of the dependence of the current density i on the inverse magnitude of the absolute temperature 1/T are plotted for E = 800, 900, 1,000 and 1,200 millivolt. The angle φ of the slope of the straight lines yields $A = -2.3 R \operatorname{tg} \varphi$ (R is gas constant) in an ultrasonic field and without that field. It is found that the ultra-sound reduces the magnitude of A; and this to the larger extent the smaller the value of E. At sufficiently large values of

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About the depolarizing effect of ultra-sound

S/058/63/000/001/109/120
A062/A101

E the change of A is equal to zero. In that case the ultrasonic field exerts an influence only on the kinetics of the diffusion process through intermixing. On the basis of measurements of A in an ultrasonic field and without that field coefficient α is calculated which determines the active portion of the electrode potential. It is shown that an ultrasonic field has an influence only on the limiting stages of the electrode process.

I. Kanevskiy

[Abstracter's note: Complete translation]

Card 2/2

S/058/62/000/012/027/048
A160/A101

AUTHORS: Nikonov, K. P., Kudryavtsev, B. B.

TITLE: The measuring of the absorption of ultrasound in liquids by the method of flow

PERIODICAL: Referativnyy zhurnal, Fizika, no. 12, 1962, 74 - 75, abstract 12G676 (In collection: "Primeneniye ul'traakust. k issled. veshchestva". M., no. 16, 1962, 183 - 190)

TEXT: A description is given of a simplified method of measuring the absorption of ultrasound. The theoretical investigations lead to the following formula for the absorption coefficient:

$$\alpha = \frac{\eta \rho c^2 k}{2 (r_2 - r_1) v^2},$$

Card 1/3

The measuring of the absorption of...

where η is the viscosity of the investigated liquid, v - the flow speed, ρc - the acoustic resistance of the medium into which the sound is radiated, U - the voltage on the emitter, k - the constant for which the calculational formula is given, r_1 and r_2 - the distance to the emitter in the tube. The measurements were carried out on frequencies of 1, 2, 3, 4, 5 and 6 Mc. The diameter of the tube was 32 - 31 mm, the diameter of the quartz - 35 mm. The results of measuring the coefficient of absorption in toluene and ethyl alcohol are presented in 2 tables. To eliminate the exterior effect, the chamber was placed in a thermostat. A special investigation was carried out of the liquid flow in the outlet tube, caused by the heat effect, at various positions of the tube. Based on the results of these measurings, a curve was plotted, showing the dependence of the flow speed on the square of the voltage on the emitter. The measurements in ethyl alcohol were conducted on a frequency of 250 kc in a tube with a diameter of 58 mm. It is noted that the heat flow was observed in 3 - 4 minutes, and attained as steady-state in 10 - 15 minutes. To increase the accuracy, the speed was measured on each frequency at 4 - 5 different voltages on the emitter. A tuning of the emitter to the maximum emission affected especially the flow speed. Based on the results of the experiments, the following conclusions are drawn: 1) when

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measuring the sound absorption in the liquid by the flow method, the determination of the sound intensity can be avoided, whereby the accuracy of the method is not affected; 2) it is necessary to take into consideration the heat effect of the sound absorption, which has an effect on the flow caused by the sound. The results of such measurements agree well with the data of other authors.

I. Nikolayeva

[Abstracter's note: Complete translation]

KUDRYAVTSEV, B.B.

Calculation of the configurational heat capacity of liquids. (MIRA 15:8)
Zhur.fiz.khim. 36 no.5:1117 My '62.
(Liquids) (Heat capacity)

KUDRYAVTSEV, B.B.; POKLONOV, A.P.

"Use of electronic apparatus and circuits in physicochemical research." by N.G.Alekseev, V.A.Prokhorov, K.V.Chmutov. Reviewed by B.B.Kudriavtsev, A.P.Poklonov. Zhur.fiz.khim. 36 no.5:1124 My '62. (MIRA 15:8)

(Chemistry, Physical and theoretical)
(Electronic apparatus and appliances)
(Alekseev, N.G.) (Prokhorov, V.A.) (Chmutov, K.V.)

S/275/63/000/002/018/032
D405/D301

AUTHORS: Ryazanov, A.I. and Kudryavtsev, B.B.

TITLE: Dependence of depolarizing effect of ultrasound on pH value of solution

PERIODICAL: Referativnyy zhurnal, Elektronika i eye primeneniye, no. 2, 1963, 16, abstract 2V100 (Primeneniye ul'tra-alaust. k issled. veshchestva, no. 16, M., 1962, 13-24)

TEXT: The dependence of the depolarizing effect of ultrasound on the pH of the solution was investigated in the process of electrolytic liberation of hydrogen from a 0.25 pH solution of $Na_2SO_4 \cdot 10\ H_2O$ on an iron cathode (Armco iron) by means of a special electrolyzer of organic glass. The cathode potentials were measured by the direct compensation method. A tube potentiometer was used for determining the pH of the solutions. The setup was thermostatically controlled to an accuracy of 1°. The intensity of the ultrasonic vibrations was 0.5 watt/cm^2, the acoustic power was 50 watt

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and the resonance frequency of the magnetostriction vibrator was 21.3 kc. The measurements were conducted in a standing sound-wave field. It was found that with increasing temperature the absolute value of the depolarizing effect remains unchanged for each pH value; the depolarizing effect is maximal in the liberation of hydrogen from neutral solutions, and minimal - from strongly acid solutions; on passing from acid solutions to neutral and alkaline, the "ultrasonic potential" of the electrode increases, whereas for pH values from 4-8 it is constant; ultrasonic irradiation leads to an increased electrode reaction rate for each pH of the solution. The dependence of the depolarizing effect on the pH of the solution is plotted for various temperature intervals and current densities. 9 references.

[Abstracter's note: Complete translation]

ACCESSION NR: AR4047552 S/0124/64/000/008/B036/B036

SOURCE: Ref. zh. Mekhanika, Abs. 8B188

AUTHOR: Nikonov, K.P., Kudryavtsev, B.B.

TITLE: Measuring the absorption of ultrasound in a liquid by the flow method

CITED SOURCE: Sb. Primeneniye al'traakust. k issled. veshchestva. Vy*p. 16. M., 1962, 183-190

TOPIC TAGS: hydromechanics, ultrasonic radiation, ultrasound absorption, liquid flow

TRANSLATION: A simplified method is described for measuring the absorption of ultrasound. Theoretical investigations lead to a formula for the absorption factor $\alpha = \frac{\eta v \rho c^2 k}{2(r_2 - r_1)U^2}$

where η is the viscosity of the liquid under consideration; v is the flow velocity; ρc is the acoustical resistance of the medium into which the sound is radiated; U is the voltage on the radiating element; k is a constant for which a computation formula is given; and r_1, r_2 are the distances to the radiating element in the tube. The measurements were carried out at frequencies of 1, 2, 3, 4, 5 and 6 Megacycles/sec. The diameter of the tube was 30-31 mm, and that of the crystal was 35 mm. The results of the measurement of the

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ACCESSION NR: AR4047552

0

absorption factor in toluene and ethyl alcohol are presented in two tables. The measuring chamber was placed in a thermostat in order to eliminate any external influences. A special study was made of the liquid flow in a discharge pipe (with the flow caused by the heat effect), at various positions of the pipe. On the basis of the results of these measurements, a graph is constructed, illustrating the dependence of the flow velocity on the square of the voltage on the radiating element. The tests in ethyl alcohol were conducted at a frequency of 250 kilocycles/sec. in a tube with a diameter of 58 mm. It was noted that a heat flow was observed within 3-4 minutes and reached a steady-state condition within 10-15 minutes. For the sake of increased accuracy, the velocity was tested at each frequency with 4-5 different radiator voltages. Tuning of the radiating element to maximum radiation was found to have a definite effect on flow velocity. The results of the experiments led the authors to the following general conclusions: 1. when measuring the absorption of sound in a liquid by the flow method, it is possible to avoid making a determination of the intensity of the sound without lowering the accuracy of the test method. 2. it is essential to take into consideration the sound absorption heat effect which does have an effect on the flow caused by the sound. The results of these measurements are in good agreement with the findings of other writers. I. Nikolayeva.

SUB CODE: ME ENCL: 00

Card 2/2

SAMGINA, G.A.; KUDRYAVTSEV, B.B.

Velocity of sound in iodine solutions. Zhur. fiz. khim. 37 no.4:918-920 Ap '63. (MIRA 17:7)

KUDRYAVTSEV, B.B.; NIKONOV, K.P.

Resonance absorption of ultrasound in an acetic anhydride -- ethyl alcohol mixture. Zhur.fiz.khim. 37 no.8:1887-1891 Ag '63. (MIRA 16:9)

(Acetic angydride) (Ethyl alcohol) (Absorption of sound)

KUDRYAVTSEV, B.B.; NIKONOV, K.P.

Temperature dependence of sound absorption in a relaxation liquid. Zhur. fiz. khim. 37 no.9:2142-2144 S '63. (MIRA 16:12)

1. Moskovskiy oblastnoy pedagogicheskiy institut.

KUDRYAVTSEV, B.B.; AKHALADZE, V.P.; KORCHAGINA, I.I.

Effect of the double layer potential on the rate of wave propagation along the interface of two liquids. Zhur. fiz. khim. 38 no.9:2309-2311 S '64. (MIRA 17:12)

KUDRYAVTSEV, B.B.; SAMGINA, G.A.

Speed of sound as an intramolecular property. Zhur. fiz. khim. 39 no.4:902-906 Ap '65. (MIRA 19:1)

1. Submitted Nov. 13, 1963.

L 65266-65 EWT(l)/EPF(n)-2/ETC(m) WW/GG

ACCESSION NR: AR5014407 UR/0058/65/000/004/E006/E006

SOURCE: Ref. zh. Fizika. Abs. 4E41

AUTHOR: Kudryavtsev, B. B.; Samgina, G. A.

TITLE: Speed of sound in a liquid as an intramolecular property

CITED SOURCE: Sb. Primeneniye ul'traakust. k issled. veshchestva. Vyp. 18. 1., 1963, 101-102

TOPIC TAGS: intramolecular mechanics, sound propagation, acoustic speed

TRANSLATION: The authors assume that the propagation of sound in a liquid may be [illegible] as a process which consists of transferral of momentum from molecule to [illegible] and intramolecular energy transfer. The intramolecular transfer is characterized by the compressibility of a substance at absolute zero, and depends on the properties of the molecule.

SUB CODE: GP, NP ENCL: 00

Card 1/1

L 46292-65 EWT(1)/T/EWP(k) Pf-4/Pi-4

ACCESSION NR: AR5012303 UR/0058/65/000/003/H079/H080

SOURCE: Ref. zh. Fizika, Abs. 3Zh492

16
B

AUTHOR: Samgina, G. A.; Kudryavtsev, B. B.

TITLE: Measurement of ultrasonic velocity in liquids in the 50-200 kc range

21

CITED SOURCE: Sb. Primeneniye ul'traakust. k issled. veshchestva. Vyp. 18. M., 1963, 95-99

TOPIC TAGS: ultrasonic velocity, liquid ultrasonic velocity, acoustic interferometry

TRANSLATION: Ultrasonic velocity in liquids (water, benzene, CCl_4) was measured at 20 and 23°C using an acoustic interferometer. The circuit diagram of a low frequency interferometer is shown and a method of fastening a barium titanate radiator is described in detail. Frequency was measured with a local oscillator wavemeter with an error $\leq 0.1\%$. The open surface of the liquid acted as a reflector. The liquid level was lowered by slowly draining it through a lateral outlet at the base of the cylinder. Liquid level was held constant with a cathetometer correct to 0.1 mm. Electrical diagrams of the equipment and a curve showing the relation be-

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L 46292-65

ACCESSION NR: AR5012303

0

tween transmitter and reflector for a frequency of 225 kilocycles (sheet thickness 9.67 mm) are shown. Velocity measurement error was not greater than 0.2%. A table showing the results of measurement of velocity in pure liquids and tabulated data for comparison are presented. Reaction curve sharpness and sensitivity of the method are a function of the type of contact between the measuring cylinder bottom and the sheets of barium titanate, and also a function of bottom thickness. The method allows measurements to be made in the interval of frequencies from several tens of kilocycles to ordinary interferometer frequencies. I. Nikolayeva

SUB CODE: GP ENCL: 00

Card 2/2

KUDRYAVTSEV, Boris Borisovich; MIKHAILKEVICH, T.V., red.

[Physics course; heat and molecular physics] Kurs fiziki; teplota i molekuliarnaia fizika. Izd.2., Prosveshchenie, 1965. 223 p. (MIRA 18:7)

ACC NR: AP6[illegible] SOURCE CODE: UR/0076/65/039/004/0902/0906

AUTHOR: Kudryavtsev, B. B.; Samgina, O. A.

TITLE: The speed of sound as an intramolecular property

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 4, 1965, 902-906

TOPIC TAGS: sound wave propagation, sonic velocity, molecular compressibility, liquid compressibility

ABSTRACT: The propagation of sound in liquids is treated as a process consisting of the transfer of an acoustic pulse of finite velocity both across the intermolecular gaps and through the molecules themselves. Because different parts of molecules have different rigidities, the compressibility of molecules can be calculated only approximately. Calculations of the compressibility of diatomic molecules (H_2, O_2, N_2, C_2, Cl_2, I_2, Br_2, Na_2, Li_2, K_2) and simple organic compounds: tetrachloride, benzene, chlorobenzene, toluene, acetone lead to the conclusion that the compressibility of liquids is determined primarily by intermolecular interactions. Assuming that the volume of a liquid V consists of the volume occupied by the molecules themselves, V_0, and of the so-called free volume V_f, the authors write the following relation expressing the dependence of the

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L 45985-65

ACCESSION NR: AP5011469

sound velocity c on the compressibility β:

$$c \sim \sqrt{\frac{V}{\beta}} = \sqrt{\frac{V_0 + V_f}{\beta_0 + \beta_f}},$$

where β_0 is the compressibility of the molecules and β_f the compreesibility due to molecular interaction. The numerator of the above expression depends primarily on the intramolecular properties, while the denominator is determined by intermolecular properties. Hence, the authors conclude that the speed of sound in a liquid is highly dependent on the intramolecular properties, which are determined, on the one hand, by the finite compressibility of the molecules, and on the other, by the marked influence of molecular dimensions. Orig. art. has: 2 tables and 14 formulas.

ASSOCIATION: None

SUBMITTED: 13Nov63 ENCL: 00 SUB CODE: GP

NO REF SOV: 007 OTHER: 007

Card 2/2 mcb

RYAZANOV, A.I.; KUDRYAVTSEV, B.B.

Depolarizing effect of ultrasound. Prim. ul'traakust. k issl. veshch. no.13:219-239 '61. (MIRA 16:6)

(Depolarization(Electricity))
(Ultrasonic waves)

KUDRYAVTSEV, B.B.

Molecular interaction in a liquid. Prim. ul'traakust. k issl. veshch. no.13:323-327 '61. (MIRA 16:6)

(Molecular dynamics)

SHILYAYEV, A.S.; KUDRYAVTSEV, B.B.

Calculation of ultrasound velocities in three-component liquid systems. Prim. ul'traakust. k issl. veshch. no.13: 307-321 '61. (MIRA 16:6)

(Ultrasonic waves—Speed)
(Solution(Chemistry))

AKHALADZE, V.P.; KUDRYAVTSEV, B.B.

Effect of an electrostatic field on ultrasound propagation in high polymer solutions. Prim. ul'traakust. k issl. veshch. no.15:117-127 '61. (MIRA 16:8)

(Ultrasonic waves--Speed)
(Polymers--Acoustic properties)

L 16931-63 EWP(q)/EWT(m)/BDS AFFTC JD

S/076/63/037/004/023/029

53

AUTHOR: Samgina, G. A., Kudryavtsev, B. B.

TITLE: Speed of sound in iodine solutions

PERIODICAL: Zhurnal fizicheskoy khimii, V. 37, No. 4, 1963, 918-920

TEXT: The speed of ultrasound (frequency ≈ 2 megacycles) is measured in solutions of iodine in benzene, ether, and ethyl alcohol. The measurements are made with an ultrasonic interferometer which has an error of not to exceed 0.5%. The speed of sound in solutions of iodine in ether, ethanol, and benzene decreases with the increase in the concentration of iodine; the adiabatic compressibility varies inversely with concentration. The relation of the speed of sound in ethanol solutions of iodine and of the adiabatic compressibility have an anomalous nature which can be explained by the presence in the solution of equilibrium between the solvate complexes and aggregate molecules of I_2. There is 1 graph and 1 table.

SUBMITTED: June 18, 1963

Card 1/1

L 12619-63 EPR/EPF(c)/EWT(1)/EWT(m)/BDS/ES(v)/ES(w)-2 AFFTC/ASD/
ESD-3/APGC/SSD Pa-4/Pr-4/Pe-4/Pab-4 WW/RH

ACCESSION NR: AP3002938 S/0076/63/037/006/1374/1377 80

AUTHOR: Kudryavtsev, B. B.

TITLE: Reaction energy of a liquid particle

SOURCE: Zhurnal fizicheskoy khimii, v. 37, no. 6, 1963, 1374-1377

TOPIC TAGS: reaction energy, potential energy, energy, liquid particle, hyperbolic equation.

ABSTRACT: Author proposes a binomial equation for calculating the reaction energy E_r of a particle, which is a function of molecular volume v. Equation is written in the form

$$E_r = \frac{A}{v^n} - \frac{B}{v^m}$$

First term is dependent on repulsion forces and second term is dependent upon attraction forces of the particles. The values A, B,

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ACCESSION NR: AP3002938

n and *m* are constants. Author then develops this formula to fit special cases. In expressing the potential energy of a liquid at temperatures which are different from absolute zero by an equation containing two hyperbolic terms, the presence of molecules with a positive energy must be considered with the result that the liquid can exist only with the presence of outside pressure. The relationship between the potential energy of a liquid and its volume at various temperatures is expressed by an equation which can be approximated by one hyperbolic term. When using a reaction energy expression which contains one or two hyperbolic terms for calculating various physico-chemical indices of a liquid, only a qualitative agreement between theory and experiment can be obtained. Orig. art. has: 11 equations and 5 figures.

ASSOCIATION: none

SUBMITTED: 26Mar62 DATE ACQ: 16Jul63 ENCL: 00

SUB CODE: CH NO REF SOV: 002 OTHER: 002

Card 2/2

L 18301-63

ACCESSION NR: AP3004988 S/0076/63/037/008/1887/1891

AUTHORS: Kudryavtsev, B. B.; Nikonov, K. P. 45

TITLE: Resonance absorption of ultrasonics in acetic anhydride-ethanol mixture.

SOURCE: Zhurnal fiz. khimii, v. 37, no. 8, 1963, 1887-1891.

TOPIC TAGS: coefficient of sound absorption, relaxation theory, ultrasonic absorption

ABSTRACT: It was established that the coefficient of sound absorption in an equimolar acetic anhydride-ethanol system at 20C does not agree with the relaxation theory. The experimentally-observed much sharper drop in frequency dependence is nicely explained by resonance absorption of sound. The ultrasonic absorption in the 0.5-5 megacycle/sec. range was measured by the flux method of D. Hall and J. Lamb (Proc. Phys. Soc. 73, 1959, 354), and measured optically in the 3-20 megacycle/sec. range. Active complexes in the reaction mixture cause additional absorption of sound. In acetic anhydride, the anomalous absorption of sound is explained by the relaxation phenomena, caused by disturbance of the equilibrium between the rotatory isomers. Orig. art. has: 3 figures, 5 equations.

Card 1/2

KUDRYAVTSEV, B.D.

Feather grass diseases in shepp in Kazakhstan. Veterinariia 33 no.8: 32 Ag '56. (MIRA 9:9)

1.Kurdayskayamezhrayonnaya veterinarno-bakteriologicheskaya laboratoriya. Dzhambulskoy oblasti.
(Kazakhstan--Sheep--Diseases and pests)

KUDRYAVTSEV, B.B.; KANATOVA, R.F.

Relation between the velocity of sound in solution and heat of hydration of a dissolved salt. Zhur.fiz.khim. 39 no.11:2810-2812 N '65. (MIRA 18:12)

2

OVCHINNIKOVA, L. P., SELIVANOVA, G. V. and KUDRIAVTSEV, B. N.

"Study of the Effect of Starvation on the Quantity of RNA and DNA in the Paramecium Caudatum by the Method of Ultraviolet Cytophotometry." pp. 52

Institute of Cytology AS USSR Laboratory of Microscopy

II Nauchnaya Konferentsiya Instituta Tsitologii AN SSSR. Tezisy Dokladov (Second Scientific Conference of the Institute of Cytology of the Academy of Sciences USSR, Abstracts of Reports), Leningrad, 1962 88 pp.

JPRS 20,614

KUDRYAVTSEV, B.B.; CHIMITDORZHIYEV, D.B.

Propagation of ultrasonic waves in nonaqueous solutions of electrolytes. Zhur. fiz. khim. 39 no.9:2300-2304 S '65. (MIRA 18:10)

OVCHINNIKOVA, L.P.; SELIVANOVA, G.V.; KHEYSIN, Ye.M.; Prinimali uchastiye: BUKHMAN, M.P.; KUDRYAVTSEV, B.N.

Photocytometric study by the ultraviolet ray method of the effect of starvation on RNA and DNA content in paramecium caudatum. Sbor. rab. Inst. tsit. no. 3:44-53 '63.
(MIRA 17:7)

1. Laboratoriya mikroskopii Instituta tsitologii AN SSSR.

KUDRYAVTSEV, B.M., inzh.

Mechanization of production processes at the plywood enterprises of the "Kostromadrevprom" Trust. Der. prom. 14 no.1:22-23 Ja '65. (MIRA 18:4)

KUDRYAVTSEV, B. V.

Nepal's foreign trade. Vnesh. torg. 27 no.9:27-30 '57. (MLRA 10:9)
(Nepal--Commerce)

KUDRYAVTSEV, Boris Vasil'yevich; FRUMKIN, B.A., red.; MEL'NIKOVA, Ye.E., red.izd-va; TYSHKEVICH, Z.V., tekhn.red.

[Nepal; economy and foreign trade] Nepal; ekonomika i vneshniaia torgovlia. Moskva, Vneshtorgizdat, 1959. 115 p. (MIRA 12:10)
(Nepal--Economic conditions) (Nepal--Commerce)

VOSKRESENSKAYA, M.N.; ISKANDEROVA, A.D.; KUDRYAVTSEV, B.Ye.

Absolute age of albite-apatite-chlorite carbonate mineralization in the southern part of the Aldan Shield. Geokhimiia no.11:1122-1127 N '64.

(MIRA 18:8)

1. All-Union Scientific Research Institute of Geology, Leningrad.

KUDRYAVTSEV, D.; TYULENEV, S.; SIL'CHENKO, M.; VORONITSYN, I.

Chromium plating in a self-regulating electrolyte.
Avt.transp. 40 no.11:28-30 N '62. (MIRA 15:12)
(Chromium plating)

KUDRYAVTSEV, D. D.

Hydrochemical characteristics of the Volga branch of the Rybinsk water reservoir. Trudy Biol. Stantsii "Borok," Akad. Nauk S.S.S.R. '50, No.1, 35-79.
(CA 47 no.13:6581 '53) (MLRA 3:11)

KUDRYAVTSEV, D I

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Bor'ba SSSR za Razoruzheniye (USSR's Struggle for Disarmament) Moskva, Gosyurizdat, 1954.

51 p.

"Reproduced on Microfilm Under Mic. D-138608."

M.A.

2. Ferr. f alloys

*Alloys of Iron with Nickel, with High Iron Content.** A. T. [illegible] and D. L. [illegible] (*Zhur. Prikl. Khim. (J. Appl. Chem.)*, 1942, 15, 204–213; *C.A.*, 1943, 37, 2323).—[In Russian.] [illegible] dilatation, hardness, specific electrical conductivity and temperature [illegible] and by micro-examination, alloys of iron with up to 3[illegible] nickel were investigated. The α—γ transition extends to 28% nickel at temperatures [illegible] coincident with those given in the literature. The temperatures of [illegible] reverse transformation in the range 0 to 28% nickel [illegible] considerably higher than the accepted values. The hardness [illegible] curves show a minimum at about 25% nickel; the temperature [illegible] curve shows a break. It is difficult to tell whether this is due to [illegible] compound Fe_3Ni or to a phase change.

1943

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000827210012-8"

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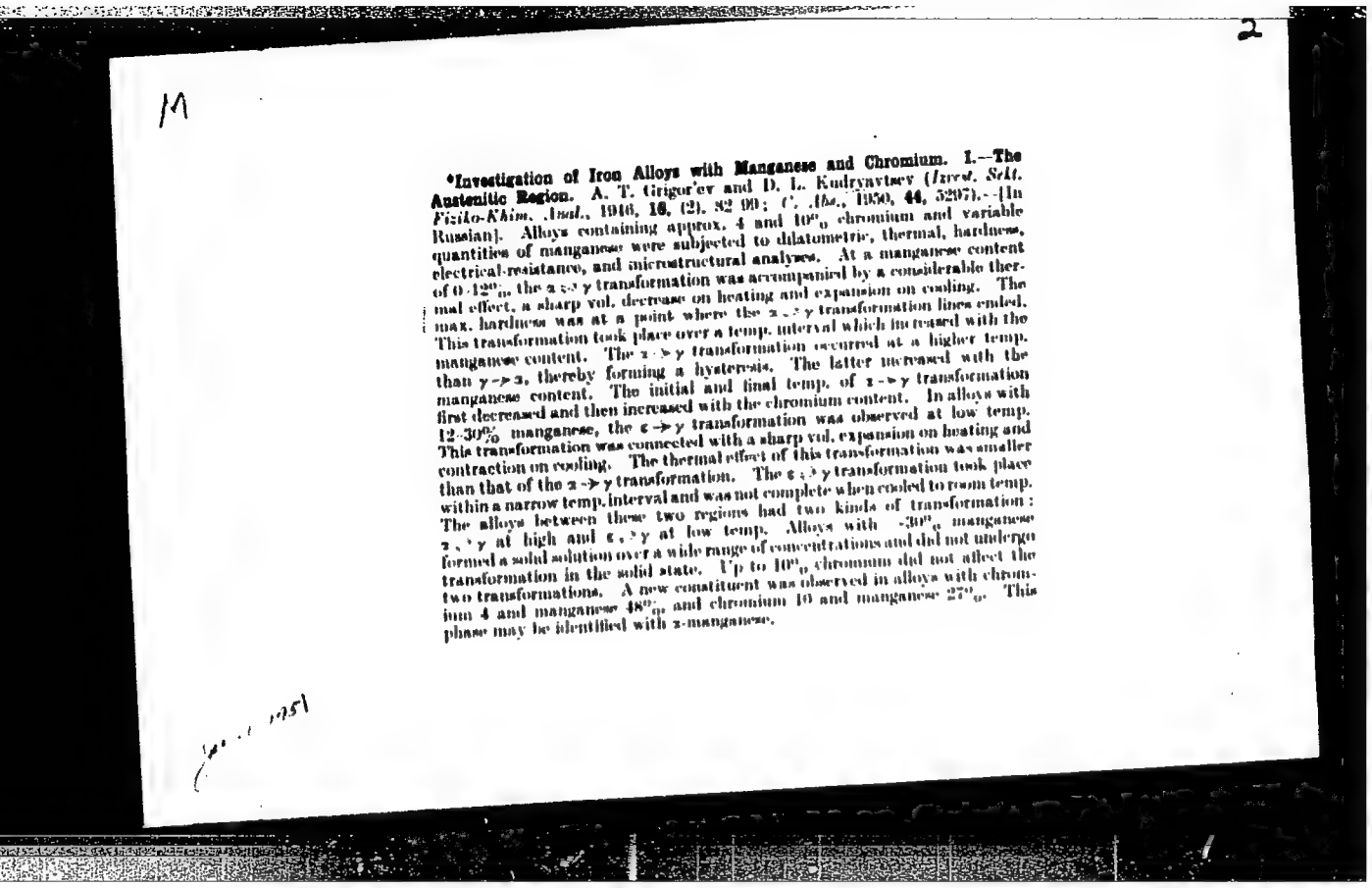
2

***Alloys of Iron and Manganese.** A. T. Grigor'ev and D. L. Kudryavtsev (*Izvest. Sekt. Fiziko-Khim. Anal.*, 1946, **16**, (2), 70-81; *C. Abs.*, 1950, **44**, 5297).—[In Russian]. The dilatometric properties, thermal differential analysis, hardness, electrical resistance, and microstructure of iron alloys with up to 50% manganese were studied. Depending on their behaviour with changing temp. and the nature of the constituent phases, the alloys could be divided into several groups: (*a*) alloys in which the $\alpha \rightleftarrows \gamma$ transformation occurred at high temp. had a martensitic structure and their hardness and electrical resistance increased sharply upon small additions of manganese; (*b*) alloys in which the $\varepsilon \rightleftarrows \gamma$ transformation took place at low temp. had a twinned structure, a very small transformation temp. interval, and the vol. increased rapidly upon heating; (*c*) alloys of the intermediate range in which transformation occurred at high as well as at low temp.; and (*d*) alloys which formed a solid solution of manganese with γ-iron had a rather low hardness, particularly at 30% manganese. *Cf. following abstract.*

June 1951



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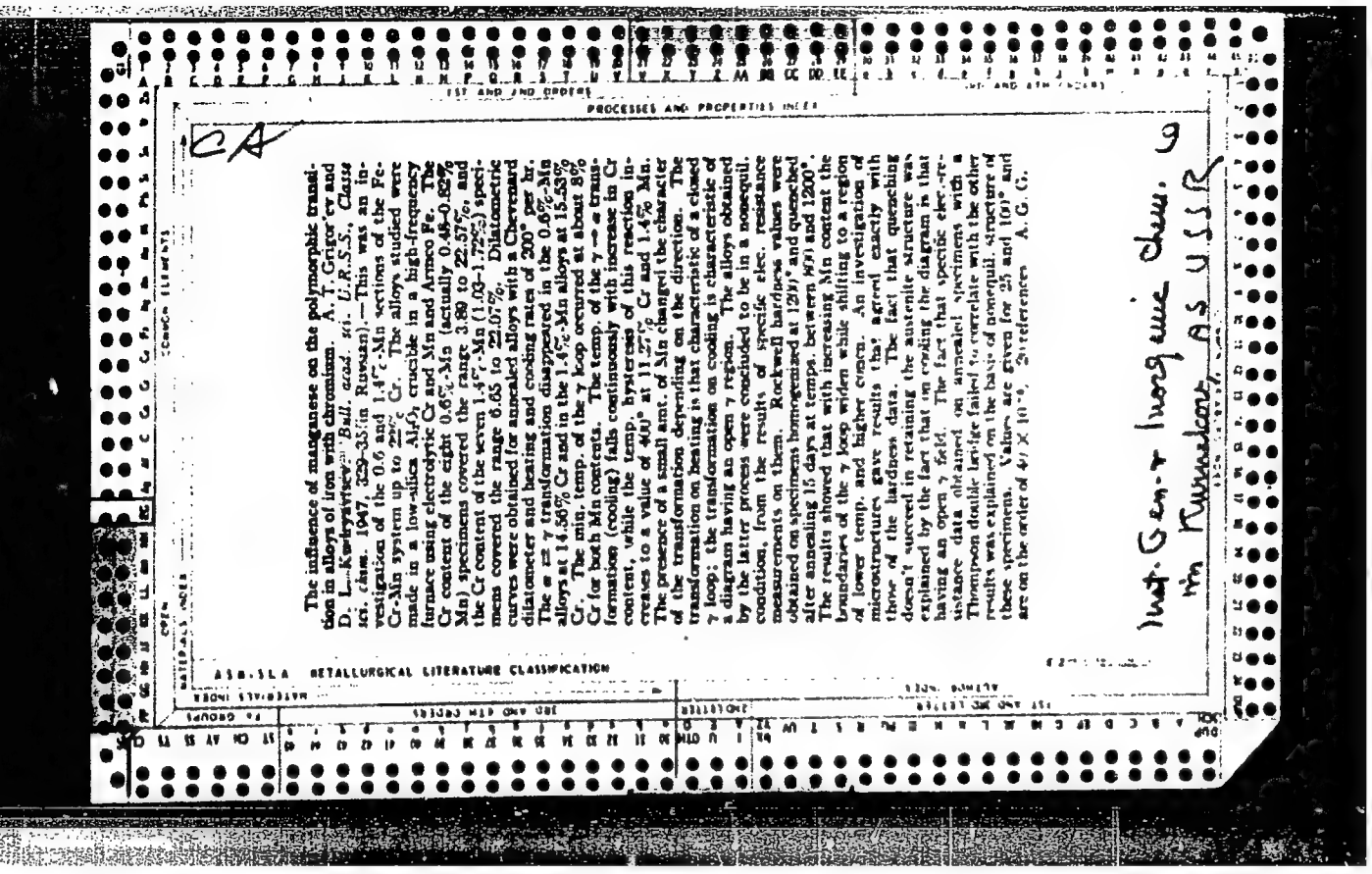
11

***Investigation of Iron Alloys with Manganese and Chromium. I.—The Austenitic Region.** A. T. Grigor'ev and D. L. Kudryavtsev (*Izvest. Sekt. Fiziko-Khim. Anal.*, 1946, **16**, (2), 82–99; *C. Abs.*, 1950, **44**, 5297).—[In Russian]. Alloys containing approx. 4 and 10% chromium and variable quantities of manganese were subjected to dilatometric, thermal, hardness, electrical-resistance, and microstructural analyses. At a manganese content of 0–12%, the $\alpha \rightarrow \gamma$ transformation was accompanied by a considerable thermal effect, a sharp vol. decrease on heating and expansion on cooling. The max. hardness was at a point where the $\alpha \rightarrow \gamma$ transformation lines ended. This transformation took place over a temp. interval which increased with the manganese content. The $\alpha \rightarrow \gamma$ transformation occurred at a higher temp. than $\gamma \rightarrow \alpha$, thereby forming a hysteresis. The latter increased with the manganese content. The initial and final temp. of $\alpha \rightarrow \gamma$ transformation first decreased and then increased with the chromium content. In alloys with 12–30% manganese, the $\varepsilon \rightarrow \gamma$ transformation was observed at low temp. This transformation was connected with a sharp vol. expansion on heating and contraction on cooling. The thermal effect of this transformation was smaller than that of the $\alpha \rightarrow \gamma$ transformation. The $\varepsilon \rightarrow \gamma$ transformation took place within a narrow temp. interval and was not complete when cooled to room temp. The alloys between these two regions had two kinds of transformation: $\alpha \rightarrow \gamma$ at high and $\varepsilon \rightarrow \gamma$ at low temp. Alloys with ~30% manganese formed a solid solution over a wide range of concentrations and did not undergo transformation in the solid state. Up to 10% chromium did not affect the two transformations. A new constituent was observed in alloys with chromium 4 and manganese 48%, and chromium 10 and manganese 27%. This phase may be identified with α-manganese.

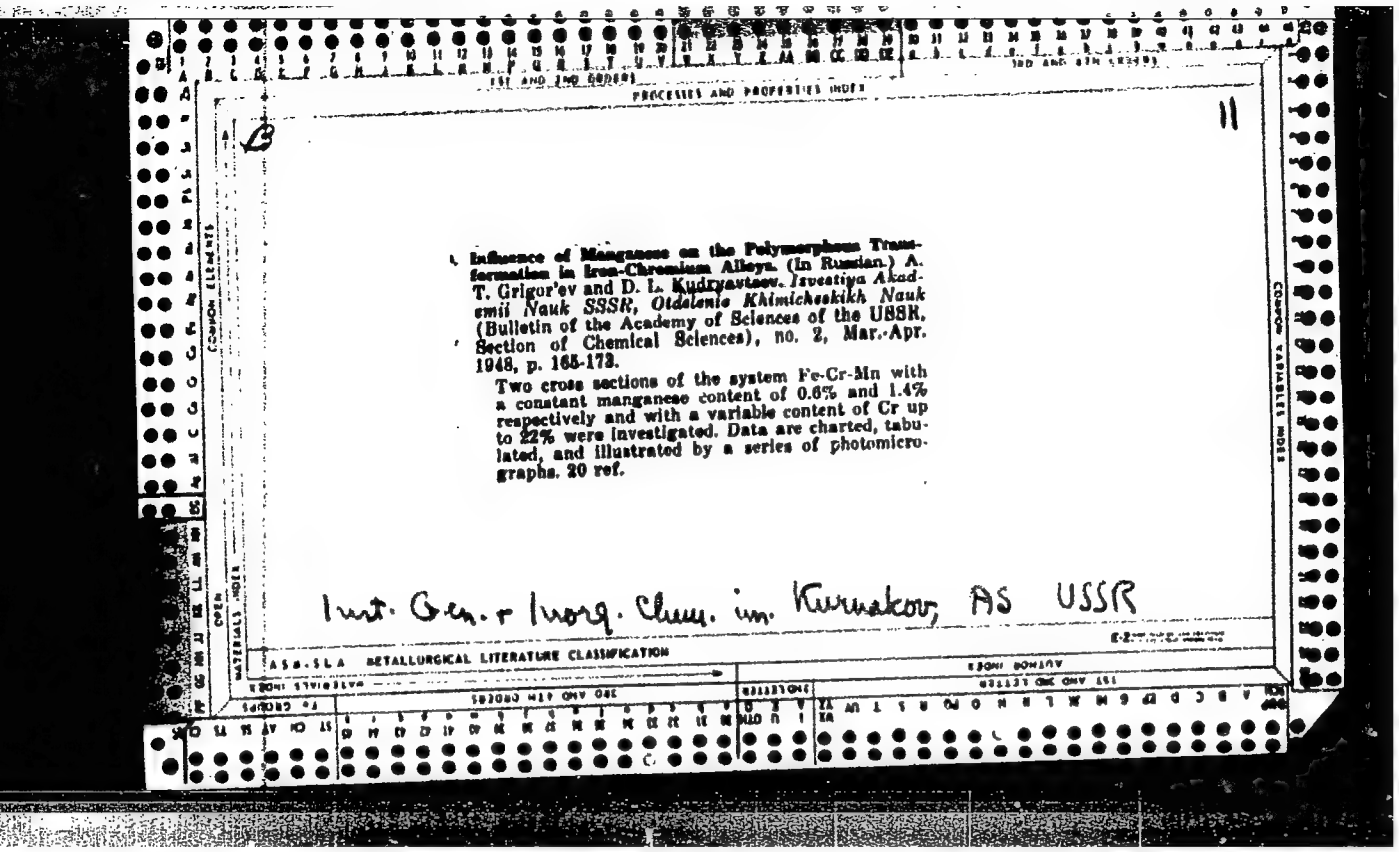


CA

The influence of manganese on the polymorphic transition in alloys of iron with chromium. A. T. Grigor'ev and D. L. Kaverznev. *Bull. acad. sci. U.R.S.S., Classe sci. chim.* 1947, 329-35 (in Russian).—This was an investigation of the 0.6 and 1.4% Mn sections of the Fe-Cr-Mn system up to 22% Cr. The alloys studied were made in a low-silica Al_2O_3 crucible in a high-frequency furnace using electrolytic Cr and Mn and Armco Fe. The Cr content of the eight 0.6% Mn (actually 0.46–0.82% Mn) specimens covered the range 3.80 to 22.57%, and the Cr content of the seven 1.4% Mn (1.03–1.72%) specimens covered the range 6.65 to 21.07%. Dilatometric curves were obtained for annealed alloys with a Chevenard dilatometer and heating and cooling rates of 200° per hr. The $\alpha \rightleftarrows \gamma$ transformation disappeared in the 0.6% Mn alloys at 14.56% Cr and in the 1.4% Mn alloys at 15.53% Cr for both Mn contents. The temp. of the $\gamma \rightarrow \alpha$ transformation (cooling) falls continuously with increase in Cr content, while the temp. hysteresis of this reaction increases to a value of 400° at 11.27% Cr and 1.4% Mn. The presence of a small amt. of Mn changed the character of the transformation depending on the direction. The transformation on heating is that characteristic of a closed γ loop; the transformation on cooling is characteristic of a diagram having an open γ region. The alloys obtained by the latter process were concluded to be in a nonequil. condition, from the results of specific elec. resistance measurements on them. Rockwell hardness values were obtained on specimens homogenized at 1250° and quenched after annealing 15 days at temps. between 950 and 1200°. The results showed that with increasing Mn content the boundaries of the γ loop widen while shifting to a region of lower temp. and higher concn. An investigation of microstructures gave results that agreed exactly with those of the hardness data. The fact that quenching doesn't succeed in retaining the austenite structure was explained by the fact that on cooling the diagram is that having an open γ field. The fact that specific elec. resistance data obtained on annealed specimens with a Thompson double bridge failed to correlate with the other results was explained on the basis of nonequil. structure of these specimens. Values are given for 25 and 100° and are on the order of 40×10^{-6}. 21 references. A. G. G.

Inst. Gen. + Inorg. Chem. Ac. Sci. USSR

A58-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

11

Influence of Manganese on the Polymorphous Transformation in Iron-Chromium Alloys. (In Russian.) A. T. Grigor'ev and D. L. Kudryavtsev. *Izvestiya Akademii Nauk SSSR, Otdelenie Khimicheskikh Nauk* (Bulletin of the Academy of Sciences of the USSR, Section of Chemical Sciences), no. 2, Mar.-Apr. 1948, p. 165-172.

Two cross sections of the system Fe-Cr-Mn with a constant manganese content of 0.6% and 1.4% respectively and with a variable content of Cr up to 22% were investigated. Data are charted, tabulated, and illustrated by a series of photomicrographs. 20 ref.

Inst. Gen. & Inorg. Chem. im. Kurnakov, AS USSR

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Metallurgy + Metallography

The $\alpha \rightleftarrows \gamma$ transformation in the iron-chromium-manganese system. A. T. Grigor'ev, D. L. Kudryavtsev, and N. M. Gruzdeva. *J. Applied Chem. U.S.S.R.* 33, 601-8 (1960)(Engl. translation); *Zhur. Prikład. Khim.* 33, 590-74 (1960).—Hardness, microstructure, and dilatometric methods show that the $\alpha \rightleftarrows \gamma$ transformation in Fe-Cr-Mn system takes place quite uniformly. The closed γ space extends from the binary system Fe-Cr to 13% Mn, gradually dropping and expanding toward the Cr vertex as the Mn concn. increases. The boundary surfaces stop at 13% Mn, and the solid soln. undergoes the $\alpha \rightleftarrows \gamma$ transformation but remains stable with increasing Mn. With increasing Mn the closed space $\alpha + \gamma$ spreads out toward the Cr vertex and shifts to lower temps.; above 13% Mn, the boundary surfaces leave the Fe-Mn plane and drop to room temp. in the ternary system. The similar binary diagrams for Fe-Ni and Fe-Mn, the martensitic structure of the Fe-Mn and the Fe-Mn-Cr alloys after solidification, and the general structure of the ternary diagram show that diffusion accompanies the $\alpha \rightarrow \gamma$ transformation during heating but does not occur with the $\gamma \rightarrow \alpha$ transformation. R. S. McC.

EWT(l)/EPA(s)-2/EWT(m)/EPF(n)-2/T

AP5017366

Subskaya, G. F.; Wang, Ping-nan; Luzhnaya, N. P.; Kudryavtsev, D. L.

Interactions in Ag-B(III)-C(V) ternary systems

AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 2, 1965,

TOPIC TAGS: phase diagram, phase equilibrium, eutectic alloy, silver, indium, arsenic, antimony, gallium, semiconductor

ABSTRACT: The study of A(I)-B(III)-C(V) type systems is of interest for production of new semiconductors. The purpose of this research was the production of Ag_3InSb_2, Ag_3InAs_2 and Ag_3GaAs_2 compounds and the study of the chemical reactions which take place in alloys with the composition of these compounds. The alloys were obtained by melting together the appropriate elements in evacuated sealed quartz tubes using vibration mixing. These alloys were then subjected to thermal and structural analysis and their microhardness was measured. Cast alloys were studied since thermal treatment has

L 52360-65
ACCESSION NR: AP5009366

The results show that the phase diagram of the InAs-$Ag_{0.75}As_{0.25}$ cross section has a pronounced eutectic. Contrary to the theoretical predictions, ternary compounds of the A(I)B(III)C_2(V) type are not formed under the investigated conditions in [illegible] Ag-Ga-Sb, Ag-In-As and Ag-Ga-As systems. Ag_3InSb_2, Ag_3InAs_2, Ag_3InAs_2 [illegible] are not single phases, but consist of B(III)C(V) type compounds which [illegible] first from the melt followed by the eutectic. Orig. art. has: 5 [illegible] and 5 figures.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry, Academy of Sciences SSSR)

[illegible] ENCL: 00 [illegible] CODE: IC, OS

OTHER: 000

BORODIN, Aleksey Ivanovich; SOKOLOVA,V.Ye., redaktor; KUDRYAVTSEV,D.M., retsenzent; MEDVEDEVA,L.A., tekhnicheskiy redaktor

[Preparation of yarn for cotton weaving] Podgotovka priazhi k khlopkotkachestvu] Moskva, Gos.nauchno-tekhn.izd-vo Ministerstva tekstil'noi promysh.SSSR, 1955. 294 p. (MLRA 9:2)
(Cotton weaving)

KUDRYAVTSEV, D. S.

KUDRYAVTSEV, D. S.: "The problem of designing cotton Gobelin fabrics." Moscow, 1955. Min Higher Education USSR. Moscow Textile Inst. (Dissertation for the Degree of Candidate of Technical Sciences)

SO: Knizhnaya Letopis' No. 47, 19 November 1955. Moscow.

KUDRYAVTSEV, D.S., kandidat tekhnicheskikh nauk.

Remarks about the problem raised concerning the manufacture of variegated zephyr. Tekst.prom. 16 no.12:65 D '56. (MLRA 10:1)

1. Direktor shelkovogo kombinata imeni Shcherbakova.
(Cotton weaving)

KUSTOV, Nikolay Dmitriyevich; KUDRYAVTSEV, D.S., retsenzent; SHUSTOVA, I.B., redaktor; DMITRIYEVA, N.I., tekhnicheskiy redaktor

[Manufacturing terry cloth] Proizvodstvo makhrovykh tkanei. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po legkoi promyshl., 1957. 121 p. (Textile fabrics) (MIRA 10:11)

LEYTES, Lev Grigor'yevich; KUDRYAVTSEV, D.S., retsenzent; ARSEN'YEV, N.N., retsenzent; LIOZNOV, A.G., red.; MEDVEDEV, L.Ya., tekhn.red.

[Textile design in harness weaving] Oformlenie tkanei v remiznom tkachestve. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po legkoi promyshl., 1957. 276 p. (MIRA 10:12)

(Weaving)

KVEK, German Germanovich; ZHENKO, Kira Aleksandrovna; KATULIN, Konstantin Aleksandrovich; KUDRYAVTSEV, D.S., retsenzent; BAKUN, M.K., retsenzent [deceased]; BIRYUKOV, I.D., retsenzent; BAVSTRUKA, M.F., red.; AKSENOVA, I.I., red.; MEDVEDEV, L.Ya., tekhn.red.

[Manufacture of gobelin fabrics] Proizvodstvo gobelenovykh tkanei. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po legkoi promyshl., 1959. 133 p. (MIRA 13:3)
(Jacquard weaving) (Gobelin tapestry)

KUDRYAVTSEV, D.S.

Experience in thread breakage control. Tekst. prom. 21 no.1:67-68 Ja '61.
(MIRA 14:3)

1. Direktor Moskovskogo shelkovogo kombinata imeni Shcherbakova.
(Weaving)

TALYZIN, Mikhail Dmitriyevich; LIPKOV, Iosif Abramovich; MAKHNOVETSKAYA, Rita Borisovna; DOROFEYEVA, Lyudmila Sergeyevna; KUDRYAVTSEV, D.S., retsenzent; DMITRIYEV, I.I., retsenzent; FROLOV, A.S., retsenzent; SHTEYNGART, M.D., red.; VINOGRADOVA, G.A., tekhn. red.

[Pile fabrics and artificial fur]Vorsovye tkani i iskusstvennyi mekh. Pod obshchei red. M.D.Talyzina. Moskva, Rostekhizdat, 1963. 351 p. (MIRA 16:4)
(Artificial fur) (Textile fabrics)

KUDRYAVTSEV, D. S.; GRANOVSKIY, R. G.

New silk fabrics manufactured by the Shcherbakov Combine.
Tekst. prom. 23 no.3:3-7 Mr '63. (MIRA 16:4)

1. Direktor Shelkovogo kombinata imeni Shcherbakova (for Kudryavtsev). 2. Nachal'nik khudozhestvennogo byuro Shelkovogo kombinata imeni Shcherbakova (for Granovskiy).

(Synthetic fabrics)

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